

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 27 (canceled)

28. (new) A pattern inspection apparatus comprising:

an image detecting part for detecting a digital image of an object substrate;  
a memory part for storing coordinate data, pattern data or feature quantity data of a non-inspection region to be masked on the object substrate on which a pattern is formed;  
a defect judging part in which the digital image detected by the image detecting part is examined in a state that a region matching with a condition stored in the memory part is masked and detecting a defect; and  
a display having a screen on which a digital image of the detected defect is displayed together with positional information of the detected defect in a map form.

29. (new) A pattern inspection apparatus comprising:

image detecting means for attaining a digital image of an object substrate on which a pattern is formed through microscopic observation thereof;  
defect detecting means for detecting defects of the pattern formed on said object substrate by comparing the digital image attained by the image detecting means with a reference image while masking a pre-registered region or a pattern matching with a pre-registered pattern; and

output means for outputting data regarding the defects detected by the defect detecting means including digital images of said defects detected by masking and the positional distribution data thereof in a map form.

30. (new) A pattern inspection apparatus as claimed in Claim 29, wherein the pre-registered region or pre-registered pattern is set up using the digital image attached by the image detecting means through microscopic observation of the object substrate.

31. (new) A pattern inspection apparatus as claimed in claim 29, wherein the output means displays an image of each of the defects detected by masking and the positional distribution data thereof on said object substrate.

32. (new) A pattern inspection apparatus comprising:  
image pickup means for attaining a digital image of an object substrate on which a pattern is formed through microscopic observation thereof;  
candidate defect detecting means for detecting candidate defects by processing the digital image attained by the image pickup means;  
defect extracting means for extracting defects from the candidate defects detected by the candidate defect detecting means; and  
display means for displaying a digital image of said defect extracted from said candidate defects together with positional information of said extracted defect in a map form on a display screen;

wherein the defect extracting means extracts defects from candidate defects while excluding defects having a feature that matches with a feature pre-registered in the defect extracting means.

33. (new) A pattern inspection apparatus as claimed in claim 32, wherein the feature pre-registered in the defect extracting means is a feature which has been set up using the digital image attained through microscopic observation of the object substrate.

34. (new) A pattern inspection apparatus comprising:

image pickup means for attaining a digital image of an object substrate on which a pattern is formed through microscopic observation thereof;

candidate defect detecting means for detecting candidate defects in examination of the digital image attained by the image pickup means; and

defect extracting means for extracting defects from the candidate defects detected by the candidate defect detecting means; and

display means for displaying a digital image of said defect extracted from said candidate defects together with positional information of said extracted defect in a map form on a display screen;

wherein the defect extracting means extract defects together with positional data and image data from the candidate defects excluding data regarding candidate defects locating in a pre-registered region, having a pattern that matches with a pre-registered configuration or having a pattern that matches with pre-registered feature quantity data, or the defect extracting means extract defects together with positional data and image data from the candidate defects in a distinguishable form without

excluding data regarding candidate defects located in the pre-registered region, having a pattern that matches with the pre-registered configuration or having a pattern that matches with the pre-registered feature quantity data.

35. (new) A pattern inspection apparatus as claimed in claim 34, wherein at least one of the pre-registered region, pre-registered configuration and pre-registered feature quantity data is a factor which has been set up using the digital image attained through microscopic observation of the object substrate.

36. (new) A pattern inspection apparatus as claimed in claim 34, wherein feature quantity data of each defect contains at least one kind of data including defect position data, projection length data, area data, and shape data.

37. (new) A pattern inspection apparatus comprising:

- image pickup means for attaining a digital image of an object substrate through microscopic observation thereof;
- candidate defect detecting means for detecting candidate defects by processing the digital image attained by the image pickup means;
- defect extracting means for extracting defects from the candidate defects detected by the candidate defect detecting means while excluding candidate defects locating in a predefined region on the object substrate or having a pattern that matches with a pre-registered pattern and for calculating feature quantity data of the defects thus extracted;
- display means for displaying an image of a defect among the defects extracted by the defect extracting means on a display screen together with a location

data thereof on the object substrate in a map form and the feature quantity data thereof;

defect classifying means for classifying the extracted defects by using the feature quantity data; and

output means for outputting class data of each of the defects classified by the defect classifying means together with the feature quantity data thereof.

38. (new) A pattern inspection apparatus as claimed in claim 37,

wherein the display means displays the class data of each of the classified defects on the display screen together with an image thereof.